



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,345	11/06/2003	Larry R. Cox	58970US002	8105
32692	7590	08/24/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			LE, THANH TAM T	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			2839	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/702,345

Applicant(s)

COX, LARRY R.

Examiner

Thanh-Tam T. Le

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/5/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *“the housing comprises a plurality of the cavities, a second anchor mounted on the second end of the cable, a second housing, wherein the second anchor is mounted in the second housing, an optical connector mounted on the second end of the cable* (the limitations above in claims 11-16 and 25-26)” must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

Art Unit: 2839

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 14-16 and 25-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations: a second anchor, a second housing and an optical connector mounted on the second end of the cable are not described in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 6, 9-13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Corke et al. (4,948,222).

Art Unit: 2839

Corke et al., figures 2 and 3, disclose an anchored fiber cable and housing assembly, comprising:

- a fiber optic cable (6) comprising a strength member (18) and jacket (17) around the strength member, wherein the cable including a first end and a second end;
- an anchor (10) mounted on the cable at the first end, the anchor including an inner sleeve (21) and an outer sleeve (10), wherein the strength member including a first end at the first end of the cable structurally engaged with the anchor; and
- a housing (1) comprising an anchor cavity (15) and a cable inlet, the anchor cavity comprising a first shoulder for engaging with the anchor, wherein the anchor is mounted in the housing cavity and the cable extending through the cable inlet, and wherein the first shoulder is engaged with the anchor to prevent the anchor from exiting the housing through the cable inlet (since the housing 1 is a box with peripheral side walls, figure 2 shows the anchor 10 is mounted on one of the side walls).

Regarding claim 2, the fiber optic cable including an optical fiber (11) in the jacket.

Regarding claim 6, the strength member is structurally engaged between the anchor inner and outer sleeves by compression between the inner and outer sleeves.

Regarding claim 9, wherein the anchor inner sleeve including a first and a second end, the second end extending toward the second end of the cable, an optical fiber passage extending through the inner sleeve, wherein the optical fiber extending through the optical fiber passage beyond the first end of the inner sleeve, and wherein the inner sleeve second end extending inside the jacket.

Regarding claim 10, wherein the anchor outer sleeve including a first and a second end, the second end extending toward the second end of the cable, a cable passage extending through the outer sleeve, wherein the optical fiber cable extending through the optical fiber cable passage such that the jacket of the cable is engaged by compressive force between the anchor inner and outer sleeves.

Regarding claim 11, figures 1 and 7, wherein the housing comprising a plurality of the cavities (5), and a plurality of cables (6) and anchors (10), each anchor is mounted in a respective one of the cavities.

Regarding claims 12 and 13, the housing comprising a fiber optic fan-out assembly and a fiber optic shuffle.

Regarding claim 17, the optical fiber may move transversely within the jacket without significantly adversely affecting the signal transmitting capability of the optical fiber.

7. Claims 1-5, 7 and 28-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Abendschein et al. (4,795,229).

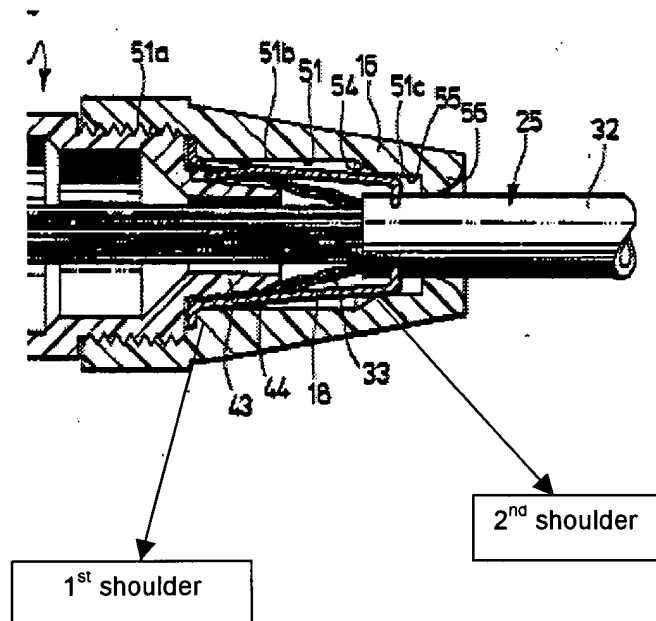
Abendschein et al., figures 2 and 3, disclose an anchored fiber cable and housing assembly, comprising:

Art Unit: 2839

- a fiber optic cable (25) comprising a strength member (33) and jacket (32) around the strength member, wherein the cable including a first end and a second end;
- an anchor mounted on the cable at the first end, the anchor including an inner sleeve (17) and an outer sleeve (18), wherein the strength member including a first end at the first end of the cable structurally engaged with the anchor; and
- a housing (16) comprising an anchor cavity (51) and a cable inlet (53), the anchor cavity comprising a first shoulder (see a figure below) for engaging with the anchor, wherein the anchor is mounted in the housing cavity and the cable extending through the cable inlet, and wherein the first shoulder is engaged with the anchor to prevent the anchor from exiting the housing through the cable inlet.

Regarding claim 2, the fiber optic cable including an optical fiber (31) in the jacket.

Regarding claim 3, wherein the anchor cavity comprising a second shoulder (see the figure below), wherein the housing comprising an optical fiber outlet (56), and wherein the second shoulder is engaged with the anchor to prevent the anchor from exiting the housing through the optical outlet.



Regarding claims 4 and 5, the strength member comprising a plurality of filaments and the filaments comprising aramid filaments.

Regarding claim 7, wherein the anchor outer sleeve including a first end oriented towards the first end of the cable, wherein the anchor inner sleeve including a first end oriented towards the first end of the cable and a front flange (71) extending from the first end, and wherein the strength member extending from the first end of the cable and is structurally engaged between the first end of the outer sleeve and the inner sleeve front flange.

Art Unit: 2839

Regarding claims 28-33, the features in the method claims are identical to those in the apparatus claims. Therefore, the method of anchoring a fiber optic cable in a housing alone is not a patentable features.

8. Claims 18-24 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Ott (5,559,917).

Regarding claim 18, Ott, figures 1-3 and 5, discloses an anchored fiber optic cable assembly comprising:

- a fiber optic cable (21) comprising a strength member (20), and a jacket (11) around the strength member, wherein the cable including a first and a second end;
- an anchor mounted on the cable at the first end, the anchor including an inner sleeve (4) and an outer sleeve (12);

wherein the inner sleeve including a first and a second end (46), and an optical fiber passage (50) extending through the inner sleeve, the inner sleeve second end extending within the cable jacket at the cable first end such that the strength member extending between the inner sleeve and the jacket;

wherein the outer sleeve including a cable passage extending through the outer sleeve, wherein the outer sleeve is mounted on the cable first end over the cable jacket with the cable extending through the cable passage, and wherein the anchor outer sleeve overlaps at least a portion of the inner sleeve; and

wherein the cable passage is sized, prior to being mounted on the cable, so as to

Art Unit: 2839

compress the cable jacket and the strength member between the inner and outer sleeves where the outer sleeve overlaps the inner sleeve, such that the strength member is structurally engaged with the anchor (figure 5).

Regarding claim 19, the fiber optic cable including an optic fiber (18).

Regarding claims 20 and 21, the strength member comprising a plurality of filaments and the filaments comprising aramid filaments.

Regarding claim 22, wherein the anchor outer sleeve including a first end oriented towards the first end of the cable, wherein the anchor inner sleeve including a first end oriented towards the first end of the cable and a front flange (figure 1) extending from the first end, and wherein the strength member extending from the first end of the cable and is structurally engaged between the first end of the outer sleeve and the inner sleeve front flange.

Regarding claim 23, the strength member extending from within the jacket at the first end of the cable, over the jacket towards the second end of the cable, between the jacket and the outer sleeve (figure 3).

Regarding claim 24, figure 5, the jacket is engaged by compressive force between the inner sleeve and the outer sleeve.

Regarding claim 27, the optical fiber may move transversely within the jacket without significantly adversely affecting the signal transmitting capability of the optical fiber.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corke et al. (4,948,222) in view of Ott (5,559,917).

Corke et al. disclose the instant claimed invention as described above except for the strength member extends over the jacket towards the second end of the cable, between the jacket and the outer sleeve.

Ott, figure 3, discloses a connector for terminated fiber optic cable having a cable (21) having a strength member (20) extends over a jacket (11) and between the jacket and an outer sleeve (12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Corke et al. to have the strength member extends over the jacket towards the second end of the cable, between the jacket and the outer sleeve, as taught by Ott, in order to improve retention of the strength member within the outer sleeve.

Conclusion

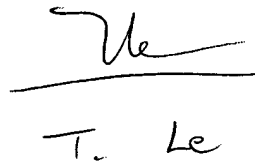
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is 571-272-2094. The examiner can normally be reached on 7:30-5:00.

Art Unit: 2839

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on 571-272-2098. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL.
8/12/04



T. Le